

Climatological Data for November, 1910.
DISTRICT NO. 11, CALIFORNIA.

Prof. ALEXANDER G. MCADIE, District Editor.

GENERAL SUMMARY.

November, 1910, was quite unlike November, 1909. That month was the rainiest November known for many years and the coldest since the present method of determining State averages has been in use. The current November was just about normal with respect to temperature and very dry, the rainfall amounting to little more than 60 per cent of the normal. There were a few stations at which rain fell on 10 or more days, but there were many stations at which rain fell on not more than 3 days during the month and some with only a single rainy day. This may be compared with the preceding November, when rain fell on 12 days as a general average for the whole State, and in some portions the number of rainy days exceeded 20. Comparing the present month with past months of the same name, we find that during a period of 62 years there have been for the central portion of the State 51 years in which the rainfall exceeded the amount of the present month and only 9 years when there was less.

While the precipitation was almost too light to be of great good to the varied interests of the State, the rain was well distributed geographically. For agriculture, mining, stock raising, and the general water-supply problems more rain was needed. This need was urgent because the long dry summer had been preceded by a dry spring and a deficient snow supply in the closing months of winter.

There were no special features of importance in the general character of the weather for the month. There were no extremely high temperatures or long-continued warm spells, and, except in the Salton Desert, maximum temperatures rarely exceeded 80°. In the main the winds were from the north and the general circulation of the lower air from the land seaward, or from the Great Basin southwestward over the mountains. There were not, however, any well-marked Foehn effects, the air moving slowly as a rule and without much momentum. The first week illustrates this condition. Had the pressure distribution been a little more marked and the movement of the air over the eastern flank of the Sierra and down on the western slope been a little more pronounced, higher afternoon temperatures might have been recorded.

A disturbance of moderate energy appeared on the north coast on November 9 and caused unsettled weather with cloudiness and southerly winds in the northern and central counties. On the 11th there was a general reversal of the circulation previously described and the establishment of conditions which, as a rule, prevail in January or February. Light rain fell in the central counties extending gradually to the south as far as San Diego, and for a period of about 100 hours showery, unsettled weather prevailed. Snow fell in the Sierra and there was half an inch on the ground on November 11, marking the beginning of the snow cover for the coming winter. On the 13th thunderstorms were reported in the Valley of the Colorado. Another unsettled period occurred on the 17th, followed by a return to normal conditions.

On the morning of November 21 the pressure distribution was favorable for the development of secondary storms and squalls in the northern counties of the State, and elsewhere there is given a description of a remarkable squall that occurred about 5 a. m. of that date. In the vicinity of San Francisco the squall was remarkable because of its suddenness and the existence of otherwise quiet, normal conditions.

We are of the opinion that the squall was due to the larger disturbance over Washington and British Columbia on the same morning and which passed eastward through the northern tier of States, being the forerunner of a series of storms that followed the same general track.

A disturbance that was well marked over the Great Basin on November 23-24 caused rain in California, with snow in the mountains, for a period of about 48 hours. The passage of the low eastward was followed by frosts in the Great Valley of California. This same disturbance was followed by the first general cold wave of the season in practically all districts east of the Rocky Mountains and it was a controlling factor in weather conditions east of the Mississippi at the close of the month. While its existence can be noted over the Great Basin on November 24, its early history, so far as California is concerned, is obscure.

There was considerable fog along the coast during the month, especially in the morning hours.

TEMPERATURE.

Comparing the present month with previous years we find the mean temperature to have been nearly normal. The following table gives the means and departures for each November from 1897 to 1910, inclusive:

Year.	Mean.	Departure.	Year.	Mean.	Departure.
	°F.	°F.		°F.	°F.
1897.....	50.8	-1.7	1904.....	53.4	+0.9
1898.....	51.6	-0.9	1905.....	52.8	+0.3
1899.....	52.1	-0.4	1906.....	52.6	+0.1
1900.....	54.7	+2.2	1907.....	52.7	+0.2
1901.....	54.9	+2.4	1908.....	52.9	+0.4
1902.....	50.8	-1.7	1909.....	50.7	-1.8
1903.....	55.2	+2.7	1910.....	52.8	+0.3

The highest temperature recorded was 103° on the 1st and other dates at Mammoth Tank and the lowest 1° below zero at Alturas on the 26th. The highest mean temperature was 70.5° at Mammoth Tank and the lowest 33.2° at Tamarack.

PRECIPITATION.

The precipitation was less than one-half of that of November, 1909. The following table gives the average and departure from the normal for each November from 1897 to 1910, inclusive:

Year.	Amount.	Departure.	Year.	Amount.	Departure.
	Inches.	Inches.		Inches.	Inches.
1897.....	1.41	-1.78	1904.....	1.44	-0.73
1898.....	0.99	-2.18	1905.....	2.26	-0.91
1899.....	3.82	+0.65	1906.....	1.92	-1.25
1900.....	5.21	+2.04	1907.....	0.28	-2.89
1901.....	2.05	-0.52	1908.....	1.85	-1.32
1902.....	3.61	+0.44	1909.....	4.52	+1.35
1903.....	5.03	+1.88	1910.....	1.91	-1.26

The greatest monthly precipitation was at Weitchpec, 18.74 inches, and none occurred at Bagdad and Mojave. The greatest 24-hour rainfall was 4.83 inches at Magalia. There were a number of stations at which over 2 inches fell in 24 hours.

Snowfall.—There were 34 inches of snow during the month at Tamarack, 30 inches at Summit, 21 inches at Cisco, 20 inches at Daunt, and 19 inches at Fordyce Dam. At the close of the month there remained on the ground at Summit 7 inches. The snowfall was comparatively light.

SUNSHINE.

The following table gives the hours of sunshine and percentage of possible:

Stations.	Hours.	Per cent of possible.	Stations.	Hours.	Per cent of possible.
Eureka.....	81	27	Sacramento.....	150	50
Fresno.....	240	73	San Diego.....	201	64
Los Angeles.....	203	65	San Francisco.....	127	42
Mount Tamalpais.....	132	43	San Jose.....	204	67
Red Bluff.....	149	50	San Luis Obispo.....	165	53

EARTHQUAKES.

Earthquakes were recorded during November as follows:

Alameda.—November 15, 27.

Santa Clara.—The seismographs recorded disturbance No. 17, on November 5, beginning about 9:18:40 and ending 9:25:24 a. m.; No. 18, on November 6, beginning 12:34:06 and ending 1 p. m.; No. 19, November 8, beginning 10:36:10 a. m. and ending 10:41:30; No. 20, on November 25, beginning 9:04:24 p. m., ending 10:02 p. m.

It may be of interest to note that three well-equipped seismological observatories are now established in this district—namely, Santa Clara, the Lick Observatory, and the University of California at Berkeley. The instruments used are the Wiechert 80-kilogram astatic horizontal and vertical and the Bosch-Omori with recent improvements.

NOTES ON THE RIVERS OF THE SACRAMENTO AND SAN JOAQUIN WATERSHEDS FOR NOVEMBER, 1910.

By N. R. TAYLOR, Local Forecaster.

Sacramento watershed.—Owing to the shortage of rainfall, which was marked in the lower Sacramento Valley and the foothills thereof, low stages prevailed in all streams throughout this watershed, and the general average was only slightly above that of the preceding month. At most points in the Sacramento River and throughout the drainage basins of the American and Feather-Yuba territory the water was the lowest of any November of which there is a record.

San Joaquin watershed.—Showers were fairly well distributed over this watershed from the 8th to 28th, inclusive, and relatively heavy rains fell generally on the 25th, but there was little deviation from the prevailing low stages of water in any of the streams.

PEACHES AND CLIMATE.

By Prof. W. T. CLARKE, University of California.

This is a portion of a paper on choosing a proper location for peach orchards, and is published by the courtesy of the editor of the California Fruit Grower.

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The next item we wish to call attention to as of extreme importance in the matter of choice of location of the peach orchard is the climatic conditions prevalent where it is intended to make the plantings. In our survey of regions in California where peach orchards are successfully grown we have noted the fact that the Sierra foothills to the floor of the main valleys and from the smaller interior valleys to valleys opening upon the ocean, from the north to the south, these plantings are found.

In a geographical distribution so great as this, involving as it does very considerable differences in altitude, in ocean exposure, and in other modifying influences, it will be readily seen that the general climatic conditions will hardly be identical in all of the sections studied. In the orchard regions of the Sierra foothills we find that the peach plantings are in what may be termed a thermal belt. This means that great extremes, especially of cold, are not found prevalent in the section. Frost are rare and indeed practically unknown at the critical period of the trees' development in the spring, the time of blossoming. Even in those Sierra sections where peaches are grown and where frosts do occur the orchards are placed on sloping ground on side hills, and the cold air drains away and thus damage from

this cause is avoided. We will then emphasize this point of fairly mild conditions prevailing at blossoming time where successful work with the peach is done in this region.

Again, in the smaller valleys opening into the great Sacramento Valley we find the same fairly mild conditions to be the rule where the orchards are continuously successful. The summer temperatures in both the regions range from high to very high, while the spring temperatures are not excessively low. The same conditions, with perhaps here and there slight modifications, hold for those sections of the main valley where we have found the peach to be a good and paying crop. Of course in the main valley we may expect to and do find sharper changes than in the regions previously noted. This is due to the fact that the surroundings offer less in the way of protection than in these other regions. Nevertheless the rule of fairly mild conditions at the period of blossoming holds here as a general rule, as does that other rule of quite high and well-sustained summer temperatures.

Follow southward into the San Joaquin Valley peach sections and we find, as far as climatic conditions are concerned, that this same set of rules holds with a fair degree of regularity. The most constant variation from the regions we have before studied is perhaps in the matter of summer temperatures. In this last noted section we may perhaps find an average higher summer temperature in the San Joaquin Valley peach sections than in the more northern sections. Incidentally we may look upon this as an advantage, more especially if we are growing peaches for drying purposes. The point we wish to emphasize now, however, is this matter of the absence of killing frosts at the period of bloom and the general high temperatures through the summer.

Going across the range of mountains into the more southerly peach sections of the State, we find the mild spring conditions and the high to very high summer conditions of temperature repeated; and where these conditions do not prevail we can be fairly sure that peach growing is, comparatively speaking, an unremunerative business.

Again, in those valleys along the Pacific coast line where any notable degree of success in peach growing has been attained, we find that the observed rule of mild spring conditions holds with a very fair degree of regularity. The summer temperatures in these valleys may not be as high on the average as in the regions before studied, yet they are fairly high. We have also noted previously that, owing to the topography of these valleys, the sometimes harsh and moisture-laden sea breezes are deflected and do not exert any deleterious influence upon the orchards. Where this is not the case and the trees grow unprotected from the ocean breezes the growing of peaches is by no means the success that it undoubtedly is where nature is disposed to be more kindly in her actions. We thus see that in spite of the difficulties in altitude, in exposure, in northern or southern location, the peach-growing sections of California exhibit in their climatic conditions certain quite marked similarities.

The intending planter should, then, in making his decision as to whether or not he will plant a peach orchard see to it that he knows well just what the climatic conditions are in the region where he intends to do business. It is decidedly important, too, that his acquaintance is complete, covering not alone a single year in its entirety, but extending over a term of years. He can not afford to determine from a single year's record what the general conditions may be expected to be. This, of course, does not necessarily mean that one should live for a term of years in a region gathering data to determine whether or not he shall plant a peach orchard. In most parts of the State rather full and complete weather records have been kept for years past. These records are available and can be used by anyone who cares to look them up. Indeed, it is the experience of this writer that many of the reported failures in orchard work here in California can be traced to causes that might easily have been avoided had the planter only understood that sources of information in regard to previously existing climatic conditions are available and, understanding this, had intelligently used this information. The climatic conditions which the orchard will have to meet are prime factors in the problem, and if these factors are neglected the results may be disastrous.

A PECULIAR SQUALL.

By A. G. MCADIE.

On November 21, 1910, at 4:45 a. m., there was a marked disturbance in atmospheric pressure at San Francisco. The morning was comparatively quiet with light winds; suddenly and without any of the usual preliminary signs of air movement, the wind rose, and gusts, varying in velocity it is estimated from 20 to 30 miles, occurred. The barometer fell rapidly and then rose rapidly. From 4:52 a. m. to 5:12 a. m. 7 miles of wind were recorded. At Oakland, about 7 miles due east, the wind movement was 6 miles, from 4:57 to 5:15 a. m.

The character of the disturbance was so unusual that it attracted general attention. Prof. Charles Burckhalter, of

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TABLE 1.—Climatological data for November, 1910. District No. 11, California.

Stations.	Counties.	Elevation, feet.	Length of record, years	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Sky.	Prevailing wind direction.	Observers.		
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmeted.	Number of rainy days, .01 inch or more.	Number of partly cloudy days.	Number of cloudy days.			
Oregon.																				
Klamath Agency.	Klamath.	4,169	2	35.1	-	68	3	9	15	55	6.80	-	1.40	26.0	13	12	2	16	s.	
Klamath Falls.	do.	4,250	15	36.4	-3.3	66	1	4	25	38	5.18	+3.84	1.45	13.5	12	7	6	17	nw.	
Lakeview.	Lake.	4,800	7																	
Merrill.	Klamath.	4,070	4	38.0	-	72	1	3	26	47	4.20	-	2.00	7.0	5	10	11	9		
Yoncalla.	do.	3	35.6			68	1	-10	25	49	6.52		1.74	20.5	11	7	10	13	s.	
California.																				
Alameda.	Alameda.	1	52.9	-		72	1	38	26	0.06	-	0.02	0.0	3	7	16	7	w.		
Alturas.	Modoc.	4,460	6	59.2	-	75	1	-1	26	53	2.59	-	0.70	9.0	10	9	9	12	sw.	
Anderson (near).	Shasta.	550	1																	
Angiola.	Tulare.	208	10	43.8	-10.3	67	24	30	107	30	0.30	-0.35	0.30	0.0	1	19	0	11	nw.	
Antioch.	Contra Costa.	46	31																	
Aptos.	Santa Cruz.	102	25	52.3	-0.7	69	1	34	27	0.73	-	2.46	0.45	0.50	0.0	2	16	1	13	nw.
Arrowhead Springs.	San Bernardino.	2,000	1	65.2	-	83	10	51	27	21	0.90	-	0.50	0.0						
Auburn.	Placer.	1,360	9	52.0	-3.0	75	2	33	26	31	1.49	-2.44	0.49	0.0	5	15	5	10	ne.	
Avalon.	Los Angeles.	59.1				69	4	47	27	18	0.08	-	0.08	0.0	1	22	6	2		
Azusa.	do.	540	8	60.1	-	90	29	34	28	52	0.41	-1.27	0.18	0.0	3	26	1	3		
Bagdad.	San Bernardino.	784	7	62.8	-	85	1	38	28	31	0.00	-	0.00	0.0						
Bakersfield.	Kern.	404	21	60.6	+4.7	88	1	40	27	38	1.37	+0.99	0.78	0.0	4	21	5	4		
Barstow.	San Bernardino.	2,105	7	58.6	-	90	37	26	28	45	0.03	-0.30	0.03	0.0	1	17	11	2	w.	
Berkeley.	Alameda.	317	23	52.4	-2.2	66	1	38	26	16	0.87	-1.93	0.40	0.0	5	8	12	10	sw.	
Biggs.	Butte.	98	11	62.8	+10.1	80	24	40	26	0.36	-	2.24	0.35	0.0		2	20	s.		
Bishop.	Inyo.	4,450	15																	
Blocksburg.	Humboldt.	1,700	4	46.8	-	80	1	26	25	42	10.77	-	1.05	0.0	12	5	6	19	se.	
Blue Canyon.	Placer.	4,695	11	47.2	+1.9	75	34	18	26	40	5.39	-2.02	1.35	0.0	8	10	0	20	s.	
Blythe.	Riverside.	1	59.9	-		91	2	32	30	30	1.98	-	0.81	0.0	4	21	5	4		
Branscomb.	Mendocino.	2,000	10	47.9	-	82	1	25	26	41	14.45	-0.52	2.91	0.0	0	12	12	7	11	sw.
Brawley.	Imperial.	-105	1	61.8	-	90	1	34	29	42	0.0	-	0.0							
Brush Creek.	Butte.	2,140	6	47.4	-	70	17	26	20	36	5.63	-	2.03	0.0	4	12	3	15	s.	
Calexico.	Imperial.	0	5	63.4	-	88	17	36	29	36	T.	-	T.	0.0	0	23	1	6	nw.	
Caliente.	Kern.	1,290	34	67.0	+11.8	80	1	45	25	0.39	-0.39	0.09	0.0	6					Do.	
Callistoga.	Napa.	363	38	52.7	-0.7	76	8	30	24	1.60	-2.19	0.62	0.0	5	17	0	13	w.		
Campbell.	Santa Clara.	217	13	51.8	-1.5	78	1	30	19	40	0.17	-1.41	0.12	0.0	2	14	6	10		
Camptonville (near).	Cedarville.	3,500	3	50.6	-	80	1	32	19	39	5.68	-	1.42	0.0	9	14	1	15	sw.	
Modoc.	Modoc.	4,675	16	41.8	+2.9	69	17	14	27	39	2.36	+0.28	0.60	2.0	10	14	15	1	sw.	
Chico.	Butte.	189	40	53.4	-0.4	76	1	28	26	38	0.86	-1.70	0.31	0.0	5	15	2	13	s.	
China Flat.	Humboldt.	600	1	51.0	-	73	2	30	5	38	8.57	-	1.68	0.0	12	8	6	16	s.	
Chino.	San Bernardino.	714	18																	
Cisco.	Placer.	5,939	39	42.0	+3.3	70	8	20	26	7.30	+2.20	2.65	21.0	8	17	2	11	s.		
Claremont.	Los Angeles.	1,200	18	58.4	+1.1	86	30	37	27	44	0.84	-1.12	0.44	0.0	7	15	6	9		
Cloverdale.	Sonoma.	340	8	52.8	-	83	1	32	6	38	2.57	-	1.05	0.0	8	14	12	4	n.	
Colfax.	Placer.	2,421	3	58.8	+2.1	77	17	33	19	34	2.45	-2.48	0.80	0.0	5	17	0	13		
Colusa.	Colusa.	60	7	54.2	-	77	23	32	17	45	0.20	-1.64	0.0	0.0	1					
Corning.	Tehama.	277	24	66.9	+11.8	80	27	50	25	57	0.77	-1.45	0.42	0.0	3	12	0	18	s.	
Cuyamaca.	San Diego.	4,677	11	47.2	+2.5	71	1	27	26	31	2.62	-1.79	1.40	T.	5	14	9	7	e.	
Daunt.	Tulare.	4,000	3	38.8	-	60	1	28	13	26	1.96	-	0.85	2.0	3	16	7	7		
Davilsville.	Yolo.	51	38																	
Deer Creek.	Nevada.	3,700	3	44.0	-	72	1	21	26	34	4.64	-	1.57	1.0	10	8	10	12	w.	
Delta.	Shasta.	1,138	25																	
Denair.	Stanislaus.	126	10	54.0	-0.6	76	24	29	28	41	0.04	-1.43	0.04	0.0	1	20	4	6		
Dobbins.	Yuba.	1,650	6	55.1	-	78	1	34	26	32	2.93	-	0.82	0.0	10	4	19	7		
Dudleys.	Marijuana.	3,000	1	46.3	-	73	2	32	29	41	2.38	-	0.90	0.0	5	9	11	10	n.	
Dunnigan.	Dunnigan.	65	33	59.7	+4.7	75	1	26	30	42	0.14	-1.93	0.10	0.0	2	11	5	14	n.	
Dunsmuir.	Siskiyou.	2,285	21	44.6	-0.3	75	17	26	26	40	10.34	+3.85	1.95	6.0	14	12	0	18		
Durham.	Butte.	160	15	53.0	+2.0	80	1	29	26	41	0.66	-2.29	0.32	0.0	3	16	7	13	s.	
El Cajon.	San Diego.	482	11	58.8	-1.3	84	30	33	21	50	0.88	-0.51	0.43	0.0	2	23	0	7	sw.	
Electra.	Amador.	725	6	55.2	-	74	17	34	26	32	1.87	-	1.03	0.0	5	18	7	5		
Elsinore.	Riverside.	1,234	15	57.1	-2.1	84	30	27	20	56	0.19	-1.55	0.10	0.0	3	22	6	2	w.	
Emigrant Gap.	Placer.	5,230	36	45.4	+2.4	60	17	30	15	29	5.00	+0.47	2.50	4.0	4	22	0	8		
Escondido.	San Diego.	657	16	56.6	+1.5	81	21	25	29	55	1.27	-0.17	0.51	0.0	4	2	25	2	w.	
Eureka.	Humboldt.	64	24	50.6	-0.4	66	9	34	26	39	0.86	+1.54	1.05	0.0	5	12	0	20	se.	
Farnington.	San Joaquin.	111	31	55.4	+0.7	80	1	34	30	30	0.38	-1.33	0.34	0.0	2	19	6	5	nw.	
Folsom.	Sacramento.	252	38	54.8	-0.8	80	1	33	26	34	0.98	-1.79	0.44	0.0	6	15	7	8		
Fordyce Dam.	Nevada.	6,500	15	37.6	-	62	1	8	28	29	6.91	-0.40	1.45	19.0	10	7	14	9	sw.	
Fouts Springs.	Colusa.	1,650	6	49.8	-	82	1	24	26	40	1.87	-	0.67	0.0	7					
Fresno.	Fresno.	293	23	54.9	+0.3	78	1	34	19	31	0.24	-0.93	0.13	0.0	3	12	14	1	nw.	
Fruto.	Glenn.	624	21	51.8	-4.3	76	1	30	26	32	0.55	-1.37	0.18	0.0	5	16	0	14	s.	
Galt.	Sacramento.	40	32	55.8	+1.8	76	22	34	28	30	0.20	-1.75	0.20	0.0	1	19	3	8	sw.	
Georgetown.	El Dorado.	2,650	37	50.4	-5.0	73	1	27	26	34	3.24	-3.07	1.47	0.0	7					
Gilroy.	Santa Clara.	193	36	51.0	-1.8	85	1	30	29	30	0.44	-1.78	0.31	0.0	3	22	0	8	se.	
Gold Run.	Placer.	3,222	11	49.8	-2.0	74	17	28	26	35	3.65	-2.60	1.30	0.0	6	13	6	11	n.	
Gonzales.	Monterey.	127	11	55.8	+4.1	85	1	32	19	34	0.27	-1.35	0.22	0.0	2	14	4	12	n.	
Grass Valley.	Nevada.	2,900	38	48.5	-	73	1	25	28	30	2.71	-2.87	0.84	0.0	7	10	11	9	sw.	
Greenville.	Plumas.	3,600	16	44.0	+3.4	77	1	21	5	51	1.44	-0.20	1.15	T.	8	14	5			

TABLE 1.—Climatological data for November, 1910. District No. 11—Continued.

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.						Precipitation, in inches.						Number of partly cloudy days.	Number of clear days.	Sky.	Prevailing wind direction.	Observers.
				Mean.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall, unmeted.	Number of rainy days, .01 inch or more.						
<i>California—Continued.</i>																				
Long Valley.	Lassen.	4,400	1	43.4	60	2	29	26	35	1.16	-1.23	0.09	T.	6	6	8	16	sw.	A. G. Evans.	
Los Angeles.	Los Angeles.	293	33	60.3	+ 1.9	85	29	43	27	35	0.15	-0.83	0.18	0.0	4	13	8	9	ne.	U. S. Weather Bureau.
Los Banos.	Mercer.	121	23	57.9	+ 3.5	84	1	30	26	..	0.26	-0.77	0.91	0.0	2	14	1	15	w.	Southern Pacific Co.
Los Gatos.	San Clara.	600	23	54.0	- 0.3	78	1	35	26	30	0.58	-3.28	0.43	0.0	4	10	5	5	n.	F. H. McCullagh.
Lytle Creek.	San Bernardino.	2,900	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. E. Anderson.	
Macdoel.	Siskiyou.	4,258	3	34.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	B. V. L. Co.	
Madeline.	Lassen.	5,270	1	38.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	J. H. Williams.	
Magalia.	Butte.	2,321	6	49.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Butte County R. R. Co.	
Mammoth Tank.	Imperial.	257	32	70.5	+ 6.7	103	14	38	30	55	0.91	+ 0.77	0.91	0.0	1	23	1	6	w.	Southern Pacific Co.
Marysville.	Yuba.	67	39	53.7	- 2.7	74	1	31	26	35	0.55	-1.49	0.40	0.0	2	13	0	17	s.	Do.
Mecca.	Riverside.	-185	4	63.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	A. Lunsted.	
Menlo Park.	San Mateo.	64	32	54.2	+ 1.0	68	14	36	26	36	0.20	-1.60	0.29	0.0	1	22	0	8	nw.	Southern Pacific Co.
Merced.	Merced.	173	36	53.6	- 1.8	72	1	26	28	36	0.43	-0.82	0.26	0.0	3	17	0	13	sw.	Santa Fe Co.
Mill Creek (1).	Amador.	3	47.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Cal. Gas. & Electric Co.	
Milton (near).	Calaveras.	660	19	55.8	- 0.5	76	14	36	26	36	0.28	-2.02	0.20	0.0	3	22	5	3	nw.	J. H. Schwick.
Modesto.	Stanislaus.	90	38	58.9	+ 3.1	89	1	33	27	..	0.27	-1.16	0.28	0.0	2	26	0	4	..	Southern Pacific Co.
Mojave.	Kern.	2,751	33	54.6	- 0.2	86	1	30	16	45	0.00	-0.40	0.00	0.0	4	15	7	8	..	Do.
Mokelumne Hill.	Calaveras.	1,550	17	53.4	+ 3.2	78	1	33	26	27	1.48	-2.33	0.77	0.4	4	15	7	8	ne.	C. E. Prindle.
Mono Ranch.	Ventura.	3,210	4	48.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	H. Lathrop.	
Montague.	Siskiyou.	2,450	22	58.0	- 7.7	72	2	8	4	54	5.40	-4.12	1.32	4.5	11	16	16	s.	G. H. Chambers.	
Monterey.	Monterey.	15	45	52.6	- 1.7	66	15	36	27	27	0.90	-0.64	0.49	0.0	3	23	2	5	se.	Southern Pacific Co.
Monterio.	Kern.	4,500	11	53.0	- 3.5	74	4	30	27	28	0.20	-1.65	0.08	0.0	4	24	5	1	nw.	John C. Knecht.
Monumental.	Del Norte.	5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	G. F. Morgan.	
Mount Tamalpais.	Marin.	2,375	11	49.2	- 1.4	69	1	35	25	20	0.63	-4.79	0.30	0.0	7	6	10	14	nw.	U. S. Weather Bureau.
Napa City.	Napa.	20	33	51.8	0.0	78	1	30	26	38	0.58	-2.30	0.18	0.0	6	10	5	11	..	Thomas Hull.
Napa (S. H.).	do.	60	32	53.3	+ 1.5	81	1	34	26	36	0.39	-2.33	0.15	0.0	5	6	13	11	sw.	W. H. Martin.
Needles.	San Bernardino.	477	18	63.5	+ 3.4	89	2	42	29	35	1.45	+ 1.21	0.73	0.0	5	24	0	6	..	Santa Fe Co.
Nellie.	San Diego.	5,350	1	49.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	C. J. Bailey.	
Nevelia City.	Nevada.	2,580	18	48.2	+ 1.2	77	14	22	26	42	2.79	-4.08	0.72	0.0	9	18	0	12	sw.	S. W. Marsh.
Newcastle.	Placer.	970	17	58.8	+ 3.9	80	1	33	26	28	1.60	-3.24	0.65	0.0	4	26	0	4	s.	George D. Kellogg.
Newhall.	Los Angeles.	1,200	33	52.8	- 2.0	85	1	32	26	28	0.78	-0.78	0.71	0.0	2	17	0	13	se.	E. S. Wangenheim.
Newman.	Stanislaus.	91	21	58.3	+ 1.2	78	1	41	28	28	0.19	-1.12	0.19	0.0	1	13	0	17	n.	Cal. Gas. & Electric Co.
Nimshew.	Butte.	2,500	6	49.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. G. Shand.	
North Bloomfield.	Nevada.	3,200	13	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	G. H. Shinn.	
North Fork.	Madera.	3,000	6	50.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Southern Pacific Co.	
Oakdale.	Stanislaus.	156	16	53.6	+ 0.7	77	1	34	13	..	0.39	-2.38	0.26	0.0	6	10	8	12	w.	Chabot Observatory.
Oakland.	Alameda.	36	34	53.0	- 0.8	68	1	39	26	21	0.63	-2.38	0.26	0.0	6	10	8	12	..	H. D. Brodie.
Oceanside.	San Diego.	558	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. H. Duncan.	
Ojai Valley.	Ventura.	900	4	57.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	W. W. Patch.	
Orland.	Glenn.	254	28	54.2	- 2.2	79	1	32	30	36	1.02	-1.06	0.44	0.0	7	13	7	10	n.	Fred T. Hale.
Oroville (near).	Humboldt.	520	26	54.8	- 2.3	81	14	32	27	34	1.45	-1.60	2.17	0.0	16	8	5	17	..	E. D. Fairchild.
Palmers.	Butte.	250	26	54.8	- 2.3	81	1	32	30	36	1.02	-1.21	0.81	0.0	2	8	6	16	s.	Miss Hetty Boalt.
Palm Springs.	Riverside.	213	19	53.8	+ 1.4	78	14	29	26	41	0.60	-2.78	0.20	0.0	3	4	15	11	s.	Southern Pacific Co.
Pasadena.	Los Angeles.	584	21	61.5	- 3.6	88	1	44	20	..	0.66	+ 0.37	0.35	0.0	3	22	1	7	e.	E. R. Sorver.
Paso Robles.	San Luis Obisp.	827	20	58.0	- 1.1	86	29	35	27	46	0.28	-0.12	0.14	0.0	4	22	7	1	sw.	Dr. F. W. Sawyer.
Peachland.	Sonoma.	800	23	52.6	+ 1.0	80	1	27	28	55	0.17	-1.26	0.10	0.0	3	24	2	4	nw.	E. H. Parnell.
Pensstock Camp.	Tuolumne.	3,750	3	48.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Tuolumne W. P. Co.	
Placerville.	El Dorado.	1,875	21	48.9	+ 0.8	70	2	29	26	31	2.23	-2.98	1.08	0.0	5	22	4	4	..	A. Baring Gould.
Point Lobos.	San Francisco.	250	17	55.6	+ 1.8	71	1	45	26	19	0.44	-2.12	0.17	0.0	6	13	4	13	..	John Hislop.
Point Reyes.	Martin.	490	18	52.4	- 0.6	75	1	44	26	20	1.18	-2.29	0.46	0.0	10	5	9	11	..	U. S. Weather Bureau.
Porterville.	Tulare.	464	21	55.7	+ 0.8	82	14	31	27	39	0.26	-0.44	0.20	0.0	4	19	4	7	..	Harry E. Cowie.
Quincy.	Plumas.	3,400	15	47.6	+ 0.5	76	14	22	44	54	3.82	-1.92	0.92	0.0	7	12	6	16	sw.	D. N. Rogers.
Red Bluff.	Tehama.	307	33	53.6	+ 0.2	87	1	35	26	32	2.78	-0.32	1.64	0.0	9	12	4	14	nw.	U. S. Weather Bureau.
Redding.	Shasta.	552	35	53.4	- 0.7	85	1	36	26	26	2.96	-0.83	0.99	0.0	8	11	0	13	..	L. F. Bassett.
Redlands.	San Bernardino.	1,352	17	58.0	- 0.9	83	30	32	27	42	0.48	-0.46	0.28	0.0	6	16	5	9	w.	Paul W. Moore.
Reedley.	Fresno.	347	10	53.8	- 1.3	77	5	30	28	34	0.47	-0.38	0.17	0.0	3	18	1	11	..	Santa Fe Co.
Rialto (near).	San Bernardino.	2,250	4	60.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Do.	
Riverside.	Riverside.	851	28	56.7	- 1.5	82	30	32	28	48	0.40	-0.36	0.28	0.0	3	13	11	6	w.	Do.
Rocklin.	Placer.	249	39	57.4	+ 3.5	86	7	31	26	37	0.60	-1.69	0.30	0.0	3	18	0	12	se.	Do.
Rohnerville.	Humboldt.	75	7	50.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	Do.	
Sacramento (1).	Sacramento.	71	33	53.2	- 0.2	78	1	34	26	32	0.17	-1.98	0.09	0.0	4	9	11	10	se.	U. S. Weather Bureau.
Sacramento (2).	do.	35	37	54.1	- 0.4	72	14	31	26	28	0.26	-1.80	0.15	0.0	4	12	8	10	s.	S. H. Gerrish.
Salinas.	Napa.	255	2	51.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	B. F. Kettlewell.	
San Bernardino.	San Bernardino.	1,054	18	58.2	+ 0.8	87	30	30	29	55	0.54	-0.91	0.26	0.0	6	15	13	5	sw.	Miss E. Ruth Abbott.
San Diego.	San Diego.	93	30	58.7	- 0.3	74	3	43	27	33	0.40	-0.38	0.18	0.0	6	15	10</td			

TABLE 1.—*Climatological data for November, 1910. District No. 11—Continued.*

Stations.	Counties.	Elevation, feet.	Length of record, years.	Temperature, in degrees Fahrenheit.					Precipitation, in inches.					Sky.	Prevailing wind direction.	Observers.			
				Mean.	Departure from the normal.	Highest.	Date.	Lowest.	Date.	Greatest daily range.	Total.	Departure from the normal.	Greatest in 24 hours.	Total snowfall unmelted.	Number of rainy days, .01 inch or more.	Number of partly cloudy days.			
<i>California—Continued.</i>																			
Susaville.	Lassen.	4,175	21	41.2	- 0.6	67	2	16	26	36	1.73	- 1.08	0.72	0.0	5	10	14	6	sw.
Tamarack.	Alpine.	8,000	4	33.2	.....	56	1	0	26	32	4.20	.....	1.60	34.0	8	13	5	12	sw.
Tehachapi.	Kern.	3,964	33	48.9	+ 2.4	72	1	35	21	.....	0.76	+ 0.20	0.40	0.0	3	14	0	16	s.
Teheama.	Tehama.	220	39	49.0	- 0.1	80	13	32	27	.....	0.88	- 1.45	0.38	0.0	4	14	0	16	sw.
Three Rivers.	Tulare.	870	.....	54.8	.....	81	1+	28	30	42	0.67	.....	0.32	0.0	3	19	4	7	sw.
Towle.	Placer.	3,704	24	48.2	- 0.8	78	1+	24	26+	49	4.22	- 2.24	1.60	0.0	7	11	1	18	s.
Tracy.	San Joaquin.	64	30	.....	.....	83	1	28	26	.....	0.05	- 1.10	0.05	0.0	1	19	5	6	nw.
Ukiah.	Mendocino.	620	17	51.0	- 0.2	83	1	28	26	47	2.51	- 1.39	0.70	0.0	9	18	6	6	w.
Upland.	San Bernardino.	1,750	13	56.6	- 2.3	80	29	33	27	44	0.82	- 0.64	0.41	0.0	4	18	6	6	nw.
Upperlake.	Lake.	1,350	25	48.4	- 3.0	80	1	27	26	38	1.84	- 0.94	0.62	0.0	7	14	5	11	nw.
Vacaville.	Solano.	175	22	57.6	+ 1.9	94	4	32	26	49	0.16	- 2.92	0.09	0.0	3	13	14	3	sw.
Valley Springs.	Calaveras.	673	21	55.5	- 0.7	74	1	38	26	.....	0.60	- 2.02	0.49	0.0	3	12	13	5	w.
Visalia.	Tulare.	334	22	.....	.....	83	1	30	26	39	1.77	.....	1.20	0.0	5	24	3	3	.....
Werner Springs.	San Diego.	3,165	2	55.0	.....	83	1	30	26	39	1.77	.....	1.20	0.0	5	24	3	3	.....
Wesco.	Kern.	336	10	48.3*	- 6.3	85	11	20	25	53	0.18	- 0.34	0.19	0.0	1	1	1	1	.....
Watsonville.	Santa Cruz.	23	14	52.5	- 3.6	84	1	28	27	46	0.68	- 3.14	0.32	0.0	3	7	18	5	sw.
Westley.	Stanislaus.	90	21	55.7	- 1.3	77	2	30	29	.....	0.26	- 1.13	0.16	0.0	2	18	2	10	.....
Wheatland.	Yuba.	84	23	52.1	- 0.9	72	1	32	26	30	0.65	- 1.94	0.24	0.0	4	17	5	8	s.
Willows.	Glenn.	136	31	52.6	- 2.2	73	1	31	26	31	0.65	- 1.21	0.25	0.0	5	10	3	17	s.
Yosemite.	Marietta.	3,945	6	44.0	.....	70	1	20	27+	38	1.37	.....	0.48	0.0	4	11	16	3	sw.

a, b, c, etc., indicate, respectively, 1, 2, 3, etc., days missing from the record.

* Precipitation included in that of the next measurement.

** Temperature extremes are from observed readings of the dry bulb; means are computed from observed readings.

† Also on other dates.

‡ Separate dates of falls not recorded.

§ Data are from standard instruments not supplied by the U. S. Weather Bureau.

|| Instruments are read in the morning; the maximum temperature then read is charged to the preceding day, on which it almost always occurs.

¶ Estimated by observer.

||| Precipitation for the 24 hours ending on the morning when it is measured.

T Precipitation is less than 0.01 inch rain or melted snow.

James Branham.
William Bennett.
Southern Pacific Co.
Do.
E. D. Barton.
Southern Pacific Co.
Do.
Dr. George McGowen.
A. P. Harwood.
C. M. Hammond.
G. O. Coburn.
Santa Fe Co.
Mrs. E. F. Sanford.
Santa Fe Co.
Spreckels Sugar Co.
Southern Pacific Co.
Wm. Lumbard.
M. T. Harrington, Jr.
C. W. Tucker.

TABLE 2.—*Daily precipitation for November, 1910. District No. 11, California.*

TABLE 2.—*Daily precipitation for November, 1910. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for November, 1910. District No. 11—Continued.*

TABLE 2.—*Daily precipitation for November, 1910. District No. 11—Continued.*

TABLE 3.—Maximum and minimum temperatures at selected stations for November, 1910. District No. 11, California.

Date.	Lakeview, Oreg.		California.																				Porterville.		Red Bluff.			
			Alturas.		Barstow.		Brawley.		Colusa.		Eureka.		Fresno.		Independence.		Los Angeles.		Mount Tamalpais.		Nevada City.							
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.		
1.			75	23	86	53	82	41	90	53	72	32	59	44	78	48	76	43	72	54	69	60	77	35	82	46	77	45
2.			69	24	88	50	78	39	84	50	75	35	57	49	77	50	72	38	75	54	65	45	77	36	82	46	74	48
3.			58	35	90	47	70	34	83	54	74	33	54	43	76	51	68	40	67	58	60	40	72	35	75	55	72	46
4.			64	15	90	49	65	33	78	53	73	40	55	41	72	45	68	42	68	56	53	39	72	33	69	44	69	42
5.			68	17	79	43	67	33	82	52	76	41	52	44	72	44	68	38	68	52	58	41	74	32	77	45	71	41
6.			58	25	80	40	73	33	84	49	75	51	57	42	73	44	67	34	78	54	64	48	76	34	71	41	70	44
7.			60	35	82	40	68	38	86	50	72	41	66	50	73	46	66	33	67	54	54	43	73	35	74	45	64	40
8.			55	41	83	41	60	46	84	48	74	42	60	46	72	41	66	33	61	53	54	47	51	35	75	45	60	51
9.			57	31	81	40	61	49	81	48	76	50	66	46	72	52	63	35	70	50	60	46	66	36	62	43	62	49
10.			67	45	80	42	58	40	85	46	76	50	65	51	73	52	63	36	74	52	59	52	65	40	78	56	65	49
11.			55	37	73	42	57	41	80	45	64	51	54	49	66	52	65	38	63	51	52	38	53	47	53	53	48	49
12.			47	31	75	43	57	37	77	52	69	49	52	40	69	57	57	40	63	55	49	36	59	59	62	61	46	61
13.			55	20	77	43	59	37	75	50	75	35	53	38	59	40	56	43	63	54	55	42	70	31	68	44	68	46
14.			58	21	79	49	62	31	73	55	59	33	53	43	65	44	62	42	68	54	57	49	64	31	69	49	71	44
15.			58	19	75	42	63	30	73	55	60	36	52	43	69	45	60	34	60	54	53	43	64	31	69	44	64	42
16.			48	20	74	48	61	32	74	46	64	39	53	46	66	41	62	34	67	51	54	45	64	30	73	57	57	49
17.			50	30	77	40	60	38	78	46	72	40	52	46	69	44	62	35	65	51	56	41	61	38	73	55	55	49
18.			43	32	70	39	51	36	77	46	63	41	57	45	53	45	60	37	61	52	46	40	48	35	70	51	60	44
19.			50	21	71	33	55	30	74	47	67	43	59	51	68	34	58	32	69	47	54	42	61	26	65	56	60	40
20.			46	45	73	30	52	34	75	38	70	33	59	53	63	35	59	26	76	52	53	42	63	28	55	56	56	41
21.			49	37	75	30	53	40	79	37	72	35	59	49	65	41	58	30	76	55	55	44	61	35	68	59	59	49
22.			44	30	77	35	51	38	77	39	75	37	57	47	67	43	64	30	74	51	57	45	65	34	60	57	57	45
23.			56	35	98	55	58	43	79	40	77	32	57	43	67	45	64	29	72	48	56	48	57	35	73	57	57	46
24.			45	31	78	38	53	40	78	40	65	40	49	42	74	46	74	32	64	47	48	42	57	37	61	55	55	46
25.			35	15	73	37	46	28	77	40	63	33	50	36	57	41	63	33	61	49	42	35	51	34	55	55	55	39
Mns.			52.4	26.1	77.4	39.9	59.0	36.8	78.3	35.4	70.1	38.3	56.3	44.9	68.7	43.1	62.5	33.6	69.0	51.6	55.0	43.3	62.9	53.9	69.1	42.3	62.3	45.0

Date.	California.																				Stockton.		Summit.		Susanville.		Yosemite.	
	Redlands.		Sacramento.		San Diego.		San Francisco.		San Jose.		San Luis Obisp.		Santa Barbara.		Santa Rosa.		Siskion.		Stockton.		Summit.		Susanville.		Yosemite.			
	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.	Min.
1.	80	46	78	49	67	58	76	53	80	43	75	54	66	55	82	37	64	34	62	45	59	31	64	32	70	32	73	32
2.	77	47	68	42	71	58	58	53	65	49	72	54	68	54	74	44	60	48	61	37	61	31	65	31	71	32	73	34
3.	70	54	62	44	74	60	56	51	67	50	63	54	65	55	65	51	65	33	58	45	64	28	61	31	72	34	73	
4.	68	53	67	40	65	56	59	50	66	42	57	52	64	57	62	40	52	42	63	37	57	33	62	26	65	26	73	31
5.	79	47	71	43	67	52	60	48	65	38	62	41	64	53	68	36	57	24	69	33	57	33	62	25	63	25	73	31
6.	82	49	73	41	68	53	58	49	66	44	76	42	71	46	68	36	62	41	58	28	61	28	63	26	65	26	73	32
7.	74	45	67	46	65	59	59	50	63	46	65	49	65	48	67	41	62	35	64	44	57	27	60	30	65	26	73	32
8.	60	47	60	50	66	53	59	54	67	50	66	56	60	59	65	44	64	38	66	43	57	31	61	34	67	24	73	32
9.	74	40	70	52	64	55	66	54	76	51	79	47	67	47	68	53	65	47	68	51	57	33	68	34	73	32	73	31
10.	81	46	68	52	63	51	61	53	64	51	74	52	67	67	65	47	54	33	70	49	44	34	63	33	69	31	73	31
11.	69	47	60	47	63	52	57	51	60	41	58	52	65	54	62	32	50	35	68	43	55	34	63	33	73	33	73	33
12.	63	50	57	39	64	58	59	48	62	40	59	49	60	55	65	33	52	43	54	48	57	28	60	34	67	34	73	35
13.	64	46	65	38	59	54	62	47	66	34	68	45	65	55	68	32	53	45	57	37	47	33	61	31	68	34	73	34
14.	58	48	65	42	65	53	61	48	63	36	60	44	60	44	62	30	50	35	51	48	57	27	61	31	68	34	73	34
15.	59	48	66	42	63	53	56	48	64	42	64	44	62	44	63	35	51	28	56	39	49	28	60	30	65	26	73	34
16.	68	40	59	37	63	48	55	49	59	44	66	39	65	45	55	35	57	28	54	38	50	29</						